

D-R 820 F

System for measuring dust concentration in wet gases and sticky dusts



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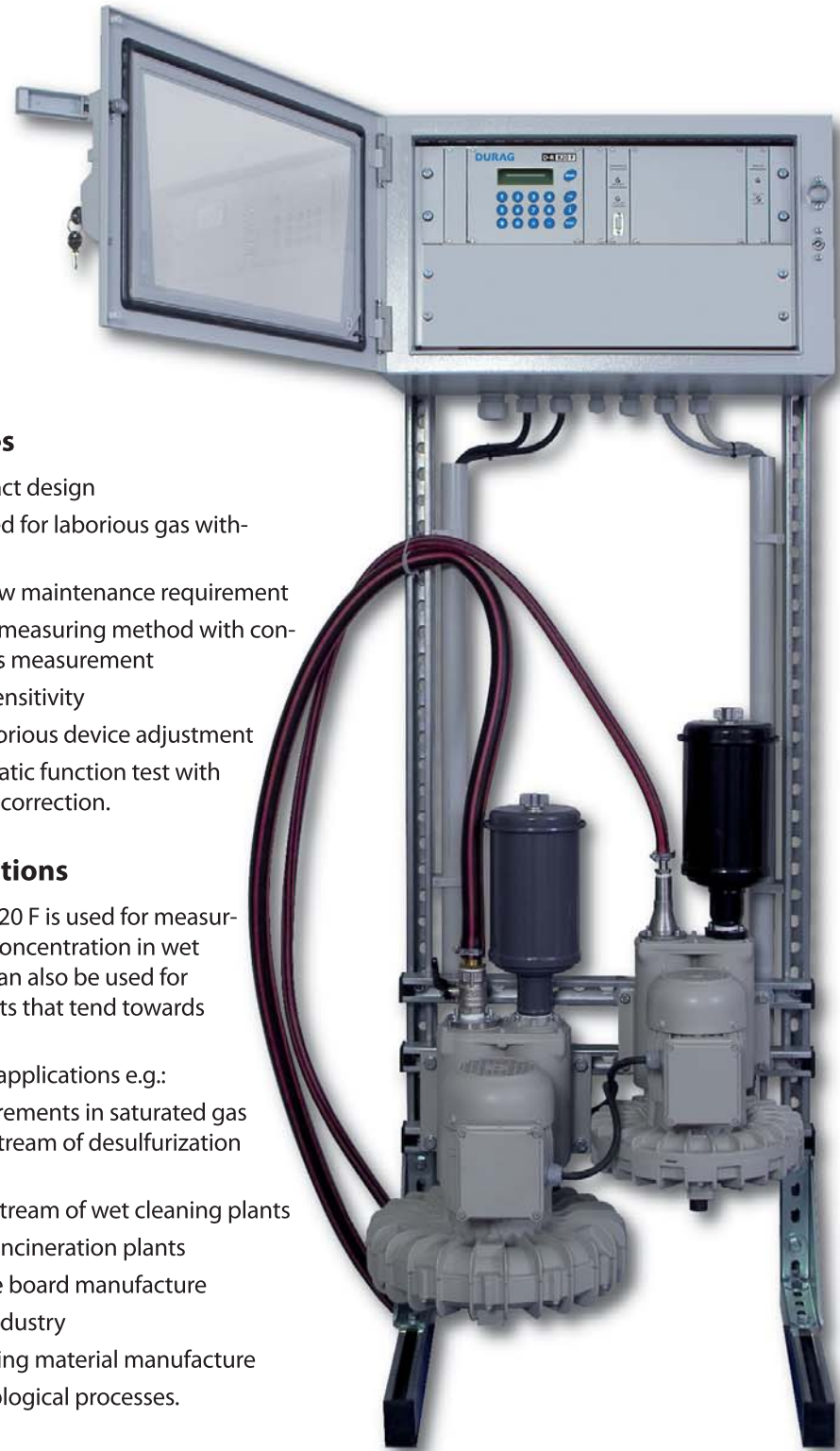
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Dust concentration monitor

Highly sensitive system for continuous extractive dust concentration measurement in accordance with the scattered light principle.



Features

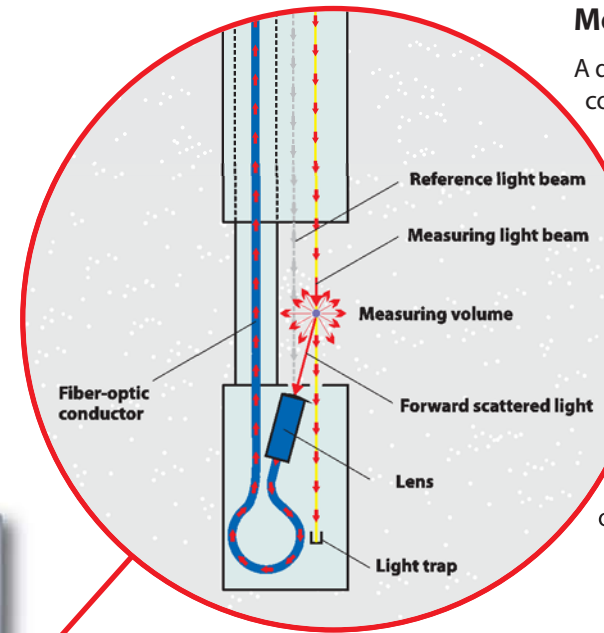
- Compact design
- No need for laborious gas withdrawal
- Very low maintenance requirement
- In-situ measuring method with continuous measurement
- High sensitivity
- No laborious device adjustment
- Automatic function test with soiling correction.

Applications

The D-R 820 F is used for measuring dust concentration in wet gases. It can also be used for sticky dusts that tend towards caking.

Potential applications e.g.:

- Measurements in saturated gas downstream of desulfurization plants
- Downstream of wet cleaning plants
- Waste incineration plants
- Particle board manufacture
- Urea industry
- Insulating material manufacture
- Technological processes.



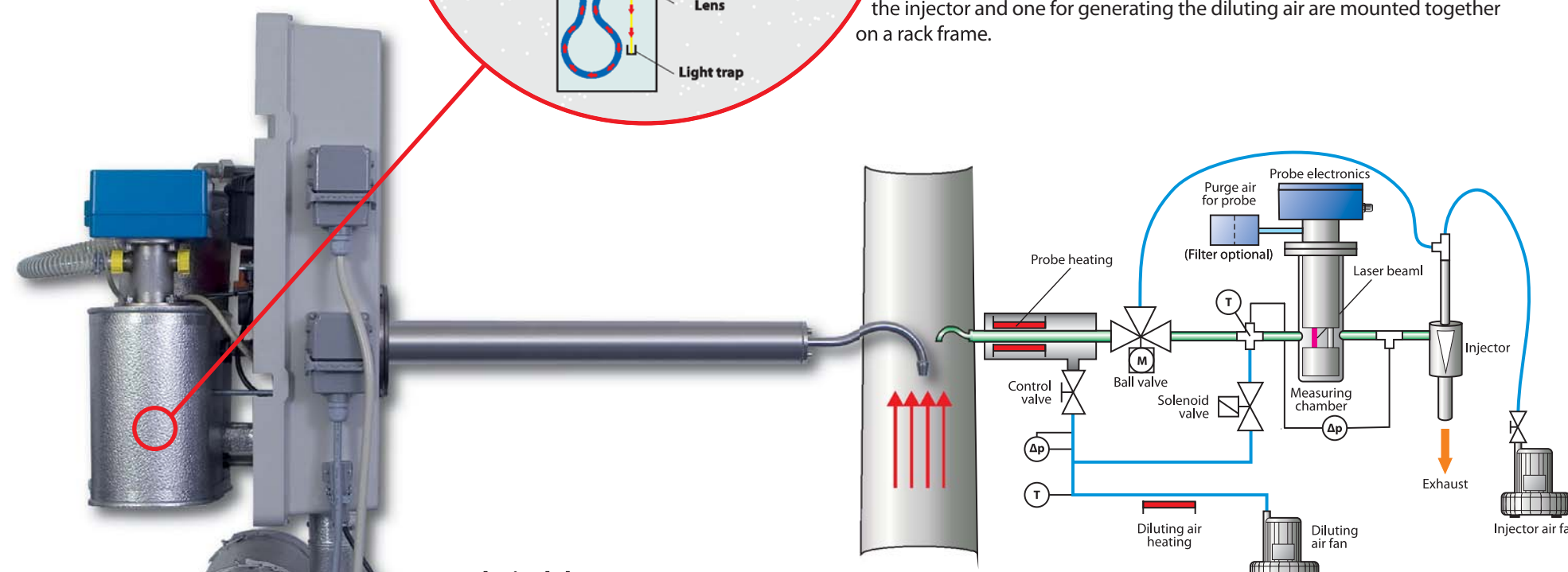
Measuring method

A defined partial current is withdrawn from the exhaust gas current which is continuously heated and diluted with clean, tempered ambient air. A laser beam is sent through the partial current in the measuring chamber and the scattered light emitted from particles is measured. The resulting signal is a measurement of the dust content of the exhaust gas.

System design

The system comprises a special sampling probe, a gas conditioning unit (dilution, tempering), the laser dust monitor, an injector, two fans and an electronic evaluation unit.

The sampling probe and the measuring chamber form an assembly. The electronic evaluation unit and one side-channel compressor for operating the injector and one for generating the diluting air are mounted together on a rack frame.



Technical data

Measuring range		Rack frame with control unit	
Dust in operation	0 ... 15 (max. 500) mg/m ³	Dimensions	600 x 1700 x 500 mm (W x H x D)
Exhaust gas moisture limit value	absolute moisture ≤40%, 250 g/m ³ , relative moisture = 100%	Space requirements	1100 x 1700 x 1100 mm (W x H x D)
Probe unit		Weight	approx. 90 kg
Dimensions including immersion depth	500 x 750 x 1000 mm (W x H x D), 500 mm	Protection class	IP65
Weight	approx. 40 kg	Ambient temperature	-20 ... 50°C
Material	Stainless steel S5316Ti, optional Hastelloy	Power supply	3/PEN AC 50 Hz, 400 V, 4 kVA
Protection class	IP65	Connections on control unit	
Ambient temperature	-20 ... 50°C	Current outputs	4x 4 ... 20 mA, galvanically isolated with common ground
Measuring gas temperature	max. 280°C	Load	max. 1 kOhm
Measuring air flow rate	8-10 m ³ /h	Digital contacts	6x max. 35 V 0.4 A
Flange	DN 80 PN 6 special version tube Ø100 mm	Digital input	optional via switching contact to externally change between measuring/purging
		Terminal contacts	max. 2,5 mm ²